REMARKS

These remarks follow the order of the paragraphs of the office action. Relevant portions of the office action are shown indented and italicized.

DETAILED ACTIONS

> *This is a Non-Final Office Action Correspondence in response to U.S. Application No. 10/776297 filed on February 11, 2004. Claims 1-25 are pending.*

Claim Objections

> *1. Claims 5, 9, 17, and 23 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.*

> *Claim 17 discloses that the method of claim 1 can be used and hence fails to further limit claim 1.*

In response, the applicants respectfully states that claim 17 is amended to overcome the objection and claim 17 is allowable.

> *Claims 5, 9, and 23 disclose products to effect the steps or functions of the claims they depend on and hence fail to further limit the claims they depend on. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.*

In response, the applicants respectfully states that claims 5, 9, and 23 are dependent Beauregard claims protecting the software for implementing the method and apparatus. This claim format was successfully used in many issued patents for several years.

In order to be fully compliant Claims 5, 9, and 23 are amended in format to overcome the objection and to overcome the objection and Claims 5, 9, and 23 are allowable.

> *2. Claims 6, 7, 8, 12, 17, 18, 20, and 25 are objected to because of the following informalities:*

> *Claims 6, 12, 17, 18, 20, and 25 should be corrected so that semicolons are used in place of commas where appropriate.*

Claims 7 and 8 should include an AND or an OR after the last semicolon.

Appropriate correction is required.

3. Claims 17 and 21 are objected to because of the following informalities:

Claim 17 contains "at least one of' terminology that indicates an OR relationship between limitations. However applicant uses AND terminology. For example, in claim 17, infrastructure characteristics change, and should be corrected to read infrastructure characteristics change, or Appropriate correction is required.

In response, the applicants respectfully states that Claims 6, 7, 8, 12, 17, 18, 20, and 25 are amended to overcome the objection and Claims 6, 7, 8, 12, 17, 18, 20, and 25 are allowable.

Claim Rejections -35 USC § 112

4. Claims 2, 3, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 2 recites the limitation "wherein the step of obtaining "a" Service Environment Model ". However, since claim 2 refers to the Service Environment Model as disclosed in claim 1, claim 2 should appropriately read wherein the step of obtaining "the" Service Environment Model or should otherwise be modified to include indication that the Service Environment Model as disclosed in claim 2 is the same Service Environment Model disclosed in claim 1. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 3 recites the limitation "said Service Environment Model description ". However, no Service Environment Model description is introduced in claim 3 or described in any previous claim that claim 3 depends on. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 21 recites the limitation "said step of generating". However, no step of generating is introduced in claim 21. Furthermore, claim 21 is an apparatus claim; it is unclear how an apparatus claim contains steps. There is insufficient antecedent basis for this limitation in the claim.

In response, the applicants respectfully states that Claims 2, 3, and 21 are amended to overcome the rejections under 35 U.S.C. 112, second paragraph, so that each is definite and particularly

points out and distinctly claims the subject matter which applicant regards as the invention. *Thus,* Claims 2, 3, and 21 are allowable.

Claim Rejections -35 USC § 102

> *8.. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:*
>
> *A person shall be entitled to a patent unless -*
> *(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 2 1(2) of such treaty in the English language.*
>
> *9. Claims 1-6, 9-14, 19, and 21-25 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 7,050,807 filed on June 12, 2000 by Osborn (denoted herein as "Osborn").*

In response, the applicant respectfully states that Claims *1-6, 9-14, 19, and 21-25* are not anticipated by the invention of Osbom. The present invention, claimed in Claims *1-6, 9-14, 19, and 21-25* provides for:

> "provisioning and managing computing services in a computing utility system. It receives as an input an infrastructure independent description of a set of requirements on the new desired state of a computing service. It uses a knowledge plane to represent the infrastructure. The method generates a Concrete Model that describes a resource structure that refines the input and is implementable over the infrastructure. It then generates and possibly executes provisioning actions to create an identical resource structure on the infrastructure. The method can be used to create new computing services, to destroy existing computing services, to modify the resource combinations allocated to a computing service, or the configuration of these resources. Provisioning actions can be executed immediately, or saved and executed later, and possibly many times. Provisioning actions may be regenerated using the method whenever infrastructure characteristics, or the service requirements change."

Thus, the present invention in Claims 1-6, 9-14, 19, and 21-25 are directed to provisioning and managing computing services in a computing utility system by generating a Concrete Model that describes a resource structure that refines the input and is implementable over the infrastructure. It also is concerned with generating and executing provisioning actions to create an identical resource structure on the infrastructure.

It is noted, that the manageability model for Web services endpoint is defined as concrete models in UML using the topics and aspects concepts, without implying any particular implementation or locus of implementation. Appropriate manageability interfaces are defined based on the UML manageability models. The Unified Modelling Language (UML) is an Object Management Group (OMG) standard for modelling software artifacts.

Whereas, the cited art to Osbom, US Patent 7,050,807, filed: June 12, 2000, is entitled: "Hardware resource identifier for software-defined communications system". The Osborn abstract reads:

> "A hardware resource identifier (19) recognizes hardware resource dependencies in a multi-channel communications system. Initially, system communications domains (D1-D4) in which system hardware resources are located are identified. Next, managed hardware resources, hardware resource groups and hardware resource group boundaries among the system hardware resources are identified. Association labels are then assigned to the system hardware resources to identify relationships, if any, between the system hardware resources and external hardware, to discern redundant resources within respective ones of the hardware resource groups, and to characterize dedicated coupling between individual ones of the system hardware resources. An abstract resource specification (78) is then interpreted to locate available system hardware resources, as organized into the system identified communications domains and the identified hardware resource groups, to enable maximum preservation of most functional and least available hardware resources during hardware resource allocation".

Thus, Osborn is directed to a hardware resource identifier (19) recognizes hardware resource dependencies in a multi-channel communications system. Osborn is concerned with assigning

labels to system hardware resources to identify relationships, between the system hardware resources and external hardware, to discern redundant resources within respective ones of the hardware resource groups, and to characterize dedicated coupling between individual ones of the system hardware resources. This is not related to the present invention as claimed in Claims 1-6, 9-14, 19, and 21-25.

Osborn is apparently not concerned with provisioning and managing computing services in a computing utility system by generating a Concrete Model that describes a resource structure that refines the input and is implementable over the infrastructure. Osborn is also not concerned with generating and executing provisioning actions to create an identical resource structure on the infrastructure. Thus, Claims 1-6, 9-14, 19, and 21-25 are allowable over Osborn.

> *10. As for claims 1 and 21, Osbom discloses a method comprising (an apparatus comprising means for) generating a Concrete Model, said Concrete Model describing a structure of resources implementable over a computing utility infrastructure, and satisfying a set of service requirements, said step of generating comprising the steps of: (means for) obtaining a Service Environment Model of a service environment, said Service Environment Model describing a set of requirements on a new desired state of said service environment (Osborn discloses obtaining an object specification, or application specification, with virtual application objects of an application which describe requirements associated with the application, see column 3 lines 44-59, column 4 lines 15-23, and Figure 2 reference number 68);*
>
> *(means for) getting an Infrastructure Model describing both resources and an organization of the resources in the computing utility infrastructure, said Infrastructure Model is encapsulated in a knowledge subsystem (Osbom discloses obtaining a hardware abstract resource description, or hardware specification, in a system describing both resources and an organization of the resources, see column 3 lines 17-44 and Figure 8);*

In response, the applicants respectfully states that exception is taken with the alleged teaching of the elements of claim 1 by Osborn. Claim 1 reads:

> 1. A method comprising generating a Concrete Model, said Concrete Model describing a structure of resources implementable over a computing utility infrastructure, and satisfying a set of service requirements, said step of generating comprising the steps of:

obtaining a Service Environment Model of a service environment, said Service Environment Model describing a set of requirements on a new desired state of said service environment;

getting an Infrastructure Model describing both resources and an organization of the resources in the computing utility infrastructure, said Infrastructure Model is encapsulated in a knowledge subsystem; and

forming the Concrete Model describing a resource structure such that said Concrete Model refines the Service Environment Model and is mappable to said knowledge subsystem .

Exception is taken with the alleged teaching of Osborn as stated above, in the following:

(Osborn discloses obtaining an object specification, or application specification, with virtual application objects of an application which describe requirements associated with the application, see column 3 lines 44-59, column 4 lines 15-23, and Figure 2 reference number 68);

Maybe. But, these "object specification, or application specification, with virtual application objects of an application which describe requirements associated with the application," apparently have no relation to claim 1 elements. Some words and phrases may be similar to words and phrases in claim 1, but are not related to the steps of claim 1. A review of Osborn fails to show Osborn teaching alleged in the office communication

For example, the cited Osbom portion column 3 lines 17-44 reads:

The hardware resource manager 18 is responsible for allocating hardware resources to system applications so that the least available and most functional of the available hardware resources 14 are not allocated until all options for using more available and/or less functional hardware resources for an application are exhausted. Details as to how the hardware resource manager 18 allocates hardware resources are given in co-pending application Ser. No. 09/586,120 entitled Dynamic Hardware Resource Manager For Software-Defined Communications System, assigned to Motorola Corporation and incorporated herein by reference. The hardware resource manager 18 allocates hardware

> resources to an application based on characteristics, or attributes, of available hardware resource such as, for example, resource capabilities, name, type, flavor, shared, version, and address characteristics stored in a hardware specification maintained on the system platform 12 and updated as hardware resources are added or removed, as well as on configuration characteristics tracked and generated by a hardware resource identifier 19. The hardware resource identifier 19 of the present invention then uses this characteristic hardware resource information to generate a hardware specification, graphically illustrated as an abstract resource specification (78 in FIG. 2), that identifies hardware resource constraints and interdependencies and that is used by the hardware resource manager 18 to designate certain of the resources 14 as allocated resources 15.

Applicants respectfully states that a review of the above fails to indicate concern with, anticipation or teaching of:

any model;
any Concrete Model;
any computing utility;
any computing utility infrastructure;
any service;
any service requirements
any desire of satisfying a set of service requirements
any Service Environment Model;
any service environment;
any step of generating to obtain a Service Environment Model of a service environment;
any description of a new desired state of any service environment;
any Infrastructure Model
any Infrastructure Model describing resources and an organization of the resources;
any computing utility infrastructure;
any knowledge subsystem;
any Infrastructure Model encapsulated in a knowledge subsystem;
any step of generating a Concrete Model;

any Concrete Model that describes a structure of resources implementable over a computing utility infrastructure, and satisfying a set of service requirements, said step of generating comprising the steps of:

Exception is also taken with the alleged teaching of the elements of claim 1 by Osborn of:

(means for) forming the Concrete Model describing a resource structure such that said Concrete Model refines the Service Environment Model and is mappable to said knowledge subsystem (Osbom discloses generating an application abstract resource description describing a resource structure, see Figure 9, that is derived from the object specification mentioned above and is mapped to resources in the system, see column 3 lines 60-67 and column 4 lines 1-14).

The cited Osbom portion column 3 lines 60-67 reads:

From information provided in the application specification 34, the application manager 16 also creates an abstract resource description 72 including virtual hardware resource objects 74 which identify application hardware requirements, and which are transmitted to the hardware resource manager 18 and mapped at 76 in the abstraction layer 54 to the available system hardware resources 14, based on the hardware resource interdependency data in the abstract resource specification 78 generated by the hardware resource identifier 19 of the present invention, to create the allocated hardware resources 15 (the object specification 68, the abstract resource description 72 and all other specifications necessary to define an application are subsets of the application specification 34). The objects 36 are then loaded onto the allocated hardware resources 15 through the abstraction layer 54 at 38 to run the requesting application. The hardware resource identifier 19 applies hardware resource constraints and interdependencies as represented generally by the arrows 76 in the static specification stage 60 by interpreting the abstract hardware resource description 72 to enable the available hardware resources 14 to be effectively allocated by the hardware resource manager of the present invention.

The cited Osbom portion column 4 lines 1-14 reads:

From information provided in the application specification 34, the application manager 16 also creates an abstract resource description 72 including virtual hardware resource objects 74 which identify application hardware requirements, and which are transmitted to

the hardware resource manager 18 and mapped at 76 in the abstraction layer 54 to the available system hardware resources 14, based on the hardware resource interdependency data in the abstract resource specification 78 generated by the hardware resource identifier 19 of the present invention, to create the allocated hardware resources 15 (the object specification 68, the abstract resource description 72 and all other specifications necessary to define an application are subsets of the application specification 34). The objects 36 are then loaded onto the allocated hardware resources 15 through the abstraction layer 54 at 38 to run the requesting application. The hardware resource identifier 19 applies hardware resource constraints and interdependencies as represented generally by the arrows 76 in the static specification stage 60 by interpreting the abstract hardware resource description 72 to enable the available hardware resources 14 to be effectively allocated by the hardware resource manager of the present invention.

Applicants respectfully states that a review of the above fails to show any Osborn concern with, anticipation or teaching of:

forming any Concrete Model;

any Concrete Model describing a resource structure;

any Concrete Model that refines any Service Environment Model;

any Concrete Model that is mappable;

any Concrete Model that is mappable to any knowledge subsystem; or

any step of forming a Concrete Model describing a resource structure such that the Concrete Model refines the Service Environment Model and is mappable to said knowledge subsystem .

Thus claim 1 and all claims that depend on claim 1 are allowable over Osborn.

11. As for claim 2, Osbom discloses each and every limitation of claim 1. Osbom further discloses wherein the step of obtaining a Service Environment Model of the service environment includes receiving a description of a set of requirements on a new desired state of said service environment (Osbom discloses the object specification, or application specification, includes virtual application objects that describe requirements

on a new desired state of the service environment of the application, see column 3 lines 44-59, column 4 lines 15-23, and Figure 2 reference number 68).

In response, the applicants respectfully states that exception is taken with the alleged teaching of the elements of claim 2 by Osborn. A review of all the cited portions of Osborn fails to support the teaching of any of the claims 1-25 of this application. The cited portions are copied below to show that indeed the alleged teaching of the elements of each claim are apparently not in Osborn.

Thus, all claims are allowable over Osborn, even when combined with the other references cited below, for obviousness purposes.

The cited Osbom portion column 3 lines 44-59 reads:

FIG. 2 is a more detailed block diagram of the topology of the system architecture of the multi-channel software-defined radio 10 shown in FIG. 1. As shown, the architecture includes several functional layers, including an application object layer 50, a virtual hardware layer 52, an abstraction layer 54 and a physical hardware layer 56, as well as several application management stages, including a static specification stage 60, a hardware allocation stage 62, an object creation stage 64 and an application startup stage 66. The functional layers 50-56 operate to load the application objects 36 onto the allocated hardware resources 15 based on the application specification 34, as well as the composite hardware specification provided by the hardware resource identifier 19 based on its processing of the static system hardware specification 40 provided with the system as well as its processing of the dynamic hardware discovery results.

The cited Osbom portion column 4 lines 15-23 reads:

The application object layer 50 includes the virtual application objects 35, which are in an object specification 68 and which identify software application objects 36 necessary to run a system application. The application manager 16 retrieves the identified application objects 36 from the application object libraries 37 based on the virtual objects 35 in the object specification 68 and loads the objects 36 onto the allocated hardware resources 15 as indicated at 38.

This doesn't teach claim 2 elements. Thus clam 2 is allowable for itself and because it depends on an allowable claim.

> *12. As for claim 3, Osbom discloses each and every limitation of claim 1. Osbom further discloses wherein said Service Environment Model description is independent of the computing utility infrastructure (Osbom discloses the object specification, or application specification, that does not depend on to the computing utility infrastructure, see column 3 lines 44-59, column 4 lines 15-23, and Figure 2 reference number 68).*

> *The cited Osbom portion column 3 lines 44-59 reads as stated above.*

> *The cited Osbom portion column 4 lines 15-23 reads as stated above.*

In response, the applicants respectfully states that this doesn't teach claim 3 elements. Thus clam 3 is allowable for itself and because it depends on an allowable claim.

> *13. As for claim 4, Osbom discloses each and every limitation of claim 1. Osbom further discloses wherein said service environment is an entity taken from a group of entitiesconsisting of: a Web site,an on-line gaming service,a scientific computation service,an e-business service,a computing service (Osbom discloses a service environment for an application, see column 3 lines 60-67 and column 4 lines 1-14), and any combination of these.*

> *The cited Osbom portion column 3 lines 60-67 reads as stated above.*

> *The cited Osbom portion column 4 lines 1-14 reads as stated above.*

> *14. As for claim 5, Osborn discloses each and every limitation of claim 1. An article of manufacture comprising a computer usable medium having computer readable program code means embodied therein for causing generation of a Concrete Model, the computer readable program code means in said article of manufacture comprising computer readable program code means for causing a computer to effect the steps of claim 1 (Osbom discloses the system of Figures 1 and 2 to effect the steps of claim 1, see Figures 1 and 2).*

15. As for claim 6, Osbom discloses each and every limitation of claim 1. Osbom further discloses wherein the step of getting an Infrastructure Model includes an action taken from a group of actions consisting of:

> ***querying at least one knowledge subsystem entity*** *(Osborn discloses obtaining the hardware abstract resource description by obtaining information from a hardware resource manager, see column 3 lines 28-43);*

The cited Osbom portion column 3 lines 28-43 reads:

> The hardware resource manager 18 is responsible for allocating hardware resources to system applications so that the least available and most functional of the available hardware resources 14 are not allocated until all options for using more available and/or less functional hardware resources for an application are exhausted. Details as to how the hardware resource manager 18 allocates hardware resources are given in co-pending application Ser. No. 09/586,120 entitled Dynamic Hardware Resource Manager For Software-Defined Communications System, assigned to Motorola Corporation and incorporated herein by reference. The hardware resource manager 18 allocates hardware resources to an application based on characteristics, or attributes, of available hardware resource such as, for example, resource capabilities, name, type, flavor, shared, version, and address characteristics stored in a hardware specification maintained on the system platform 12 and updated as hardware resources are added or removed, as well as on configuration characteristics tracked and generated by a hardware resource identifier 19. The hardware resource identifier 19 of the present invention then uses this characteristic hardware resource information to generate a hardware specification, graphically illustrated as an abstract resource specification (78 in FIG. 2), that identifies hardware resource constraints and interdependencies and that is used by the hardware resource manager 18 to designate certain of the resources 14 as allocated resources 15.

querying Resource Managers *(Osborn discloses obtaining the hardware abstract resource description by obtaining information from a hardware resource manager, see column 3 lines 28-43),*

The cited Osbom portion column 3 lines 28-43 reads as stated above.

querying Resource Instance Services,

querying a best practices catalog;

obtaining knowledge of available resource types (Osbom discloses obtaining the hardware abstract resource description by obtaining information on resource group types, see column 5 lines 52-56 and Figure 8);

The cited Osbom portion column 5 lines 52-56 reads:

At 184, all resource group types and boundaries are identified. Specifically, any collection of highly coupled hardware resources is a good candidate to be identified as a resource group. Also, identical sets of hardware resources are identified as identical group types.

obtaining knowledge of resources constraints *(Osbom discloses obtaining the hardware abstract resource description by obtaining information on resource group designations and other constraints inherently associated with resource attributes, see column 6 lines 3-20 and Figure 8);*

obtaining knowledge of resource capabilities (Osbom discloses obtaining the hardware abstract resource description by obtaining information on resource attributes, see column 6 lines 45-65 and Figure 8);

The cited Osbom portion column 6 lines 45-65 reads:

Next, at 188 the abstract resource diagram is generated to organize the available hardware resources into the above-discussed domains and resource groups. FIG. 8 shows an exemplary abstract representation 168 of a subset of managed device resource groups for the multi-channel radio shown in FIG. 5. Each device is characterized by a list of attributes and one or more assigned association labels assigned, although only certain of the attributes and association labels are shown for ease of illustration and explanation. For example, the attribute and association labels for the transmitter port 154c in the RF resource group 126 identifies the resource as a port type resource with an RS422 flavor at

system address /qcScc/11 and with a "tx," or transmitter, association. Such information describes the hardware resources and their connectivity using an abstract resource notation. The information of the abstract resource diagram generated by the systems designer can be easily encoded into hardware resource specification files 40 to describe all of the managed hardware resources and underlying interdependencies to the hardware resource identifier 19.

obtaining knowledge of infrastructure constraints (Osbom discloses obtaining the hardware abstract resource description by obtaining information on resource group designations and other constraints inherently associated with resource attributes, see column 6 lines 3-20 and Figure 8);

The cited Osbom portion column 6 lines 3-20 reads:

In order for the resource group designations to be useful to the hardware resource manager, the hardware resource identifier 19 must identify the managed devices within the resource groups. For example, the hardware resources within the dashed box in FIG. 7 are identified by the hardware resource identifier as belonging to the RF resource group 126. Therefore, if an application specification requests tightly coupled resources, they can all be allocated from the same RF resource group, such as the resource group 126. A signal may then be input through the receiver 144, pass through the modem 146 and then be transmitted through the external RF 138 by the transmitter 148. Alternatively, if the communication application could process the signal by requesting a super-circuit that required, for example both of the RF resource groups 126, 128, the signal could, for example, be input through the receiver 144 of RF resource group 126, pass through the modem 146, and then pass through the modem 158 and be transmitted by a transmitter 175 of the RF resource group 128.

obtaining knowledge of infrastructure capabilities (Osbom discloses obtaining the hardware abstract resource description by obtaining information on resource attributes, see column 6 lines 45-65 and Figure 8);

The cited Osbom portion column 6 lines 45-65 reads as stated above.

obtaining knowledge of infrastructure best practices patterns; and any combination of these actions.

16. As for claim 9, Osbom discloses each and every limitation of claim 1. Osbom further discloses a program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for generating a Concrete Model, said method steps comprising the steps of claim 1 (Osbom discloses the system of Figures 1 and 2 that comprise the steps of claim 1, see Figures 1 and 2).

17. As for claim 10, Osbom discloses each and every limitation of claim 1. Osbom further discloses further comprising using said generating said Concrete Model to enforce a policy based service provider's best practices in implementation of Service Environments in the computing utility infrastructure (Osborn discloses generating the Concrete Model to enforce the requirements needed to run. the application, see column 3 lines 1-8 and column 3 lines 1-8.

The cited Osbom portion column 3 lines 1-8 reads:

> The application manager 16 is responsible for executing a system application, typically in response to an operator-initiated event, based on a stored application specification 34 that is associated with the application. The application specification 34 contains application object descriptions, known as virtual objects, 35 required hardware resource information and software object to hardware processor mapping information that application developers need to guarantee correct operation of system applications, and serves as common language among applications, the application manager 16 and the hardware resource manager 18 for specifying required and available resources during system resource allocation.

The cited Osbom portion column 4 lines 15-23 reads as stated above.

18. As for claim 11, Osbom discloses each and every limitation of claim 10. Osbom further discloses wherein the best practices are encoded as patterns in a best practices catalog and used in the step of forming said Concrete Model (Osbom discloses the requirements are derived from an application object library column 3 lines, 9-12).

The cited Osbom portion column 3 lines, 9-12 reads:

The application manager 16 retrieves software objects 36 required to run the application from an application object library 37 (FIG. 2) based on the virtual objects 35, and loads the objects 36 onto the hardware processors 20, 22, 24 through a mapping function represented generally at 38 based on hardware resource allocation information provided by the hardware resource manager 18 and facilitated by the hardware resource identifier 19.

19. As for claims 12 and 22, Osbom discloses each and every limitation of claims 1 and 21.

Osbom further discloses (means for) employing said Concrete Model to generate provisioning actions, said provisioning actions, when executed, create a resource structure that matches the description in the Concrete Model, said resource structure satisfies said set of requirements on new desired state of said service environment (Osbom discloses obtaining an abstract resource description describing virtual hardware resource objects and using the abstract resource description to create a matching resource structure to satisfy the requirements of the service environment, see column 3 lines 60-67).

The cited Osbom portion column 3 lines 60-67 reads as stated above.

20. As for claim 13, Osbom discloses each and every limitation of claim 12. Osbom further discloses employing said provisioning to enforce a policy based service provider's best practices in implementation of service environments in the computing utility infrastructure (Osborn discloses employing provisioning to enforce the requirements needed to run the application, see column 3 lines 1-8, 60-67 and column 4 lines 15-23).

The cited Osbom portion column 3 lines 1-8 reads as stated above.

The cited Osbom portion column 4 lines 15-23 reads as stated above.

21. As for claim 14, Osbom discloses each and every limitation of claim 13. Osbom further discloses wherein the best practices are encoded as patterns in a best practices catalog and used in the step of forming the Concrete Model (Osborn discloses the requirements are derived from an application object library column 3 lines 9-12).

The cited Osbom portion column 3 lines 9-12 reads as stated above.

22. As for claims 19 and 24, Osbom discloses each and every limitation of claims 1 and 21.
Osbom further discloses (means for) employing said Concrete Model to generate a Resource Manager for a composite resource (Osborn discloses that a hardware resource manager employs the application hardware resource specification and a hardware resource diagram, which represents a composite resource, see column 6 lines 3-20 and Figure 8, to allocate the composite resource and thereby create a resource manager for the composite resource, see column 7 lines 1-25).

The cited Osbom portion column 7 lines 1-25 reads:

Subsequent to generating the hardware resource diagram, the hardware resource specification 40, an application hardware resource specification 72 that is, for example, an ASCII file, is generated to describe the hardware resources required by an application. The manner in which the hardware resource specification is generated is similar to the above-described manner in which the abstract resource diagram is generated, except that not all attributes and resources assigned to the hardware resources need to be specified. FIG. 9 is an exemplary hardware resource specification generated in response to an application requiring the power PC processor 154a' as the PCI bus host, and an RF resource group including two serial RS422 ports 154b', 154c' associated with the receiver and the transmitter, two Altera 250 FPGAs 146c', 146d', and one Sharc processor 146a'. Further, the hardware specification 72 also dictates via the virtual RF resource group 189 that the application requires all resources except for the power PC to come from the same RF resource group. The hardware resource manager 18 then parses the definitions and constraints in the application hardware resource specification 72 and matches the resources required by the application with the best available resources. For example, if the resources shown in FIG. 10 represent all available hardware resources, the hardware

resource manager 18 would allocate the available resources in the RF resource group 146 as well as the power PC processor 154a having sufficient connectivity, represented by the darkened boxes, to the application.

23. As for claim 23, Osbom discloses each and every limitation of claim 21. Osbom further discloses a computer program product comprising a computer usable medium having computer readable program code means embodied therein for causing generation a Concrete Model, the computer readable program code means in said computer program product comprising readable program code means for causing a computer to effect the functions of claim 21 (Osbom discloses the system of Figures 1 and 2 to effect the functions of claim 21, see Figures 1 and 2).

24. As for claim 25, Osbom discloses each and every limitation of claim 1. Osborn further discloses where the step of generating a Concrete Model is performed by a user taken from a group of user's consisting of:

> *a service provider, a customer of a service provider, a company owning an IT infrastructure (Osborn discloses an application developer, see column 3 lines 1-15 and column 8 lines 12-23), and a utility provider (Osbom discloses an application developer, see column 3 lines 1-15 and column 8 lines 12-23).*

The cited Osbom portion column 3 lines 1-15 reads as stated above.

The cited Osbom portion column 8 lines 12-23 reads:

> Also, the present invention is applicable to highly complex super-communication circuits in which multiple channels of hardware resources are allocated to a single application performing higher level sub-channel, or, in other words, multiplexed communications path, management. Specifically, the hardware resource manager enables an application developer, through use of the resource group concept, to assign sub-channel objects to the same resource group within a larger application. Examples of such super-communication circuits include bridging and simulcast/receive communications topologies.

In response, the applicants respectfully states that as stated above, exception is taken with the alleged teaching of the elements of Claims 1-6, 9-14, 19, and 21-25 by Osborn. The argument given for method claim 1, is similarly applicable to the apparatus claims. A review of all the cited portions of Osborn fails to support the teaching of any of the claims 1-25 of this application. The cited portions are copied below to show that indeed the alleged teaching of the elements of each claim are apparently not in Osborn.

Thus, all claims are allowable over Osborn, even when combined with the other references cited below, for obviousness purposes.

Claim Rejections -35 USC § 103

> *25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:*
> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

> *26. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osbom, as applied to claim 1 above, and in further view of U.S. Patent Application Publication No. US2003/0208473 Al filed on January 28, 2000 by Lennon (denoted herein as "Lennon").*

The cited art to Lennon, US Patent Application US2003/0208473, filed: January 28, 2000, is entitled: "Browsing electronically-accessible resources". The abstract reads: "A method of browsing electronically-accessible resources using descriptions of the resources. These descriptions have descriptor components, which have attributes representative of at least two axes of access to the resources. These descriptions also have links to the corresponding resources. The method first reads the descriptions and displays a number of items (1608). Each one of these items are associated with a corresponding descriptor component of the read description that has an attribute. The method allows the browsing (1602,1603) of the descriptions and their corresponding electronically-accessible resources via the links using the displayed items".

So, there is no reason to make this combination except in an attempt to find a combination that allegedly has the elements of these claims to make the claims obvious. This is hindsight which is not allowed. But, even the combination does not teach the combined elements.

> *27. As for claim 7, Osborn discloses each and every limitation of claim 1. Osbom does not explicitly disclose, but Lennon discloses wherein the step of forming a Concrete Model includes:*
> *at least one refinement step comprised of selecting a node and replacing said node with a sub graph structure to obtain an intermediary model which is an input to a next refinement step (Lennon discloses selecting the description object in a resource description, see DDF on page 9 paragraphs 115 and 116, and replacing it with a sub tree structure, see Figure 5, to produce a description object model, see page 11 paragraphs 154-156 and Figures 2A and 2B);*
> *repeating the step of selecting and replacing until a resulting intermediary model is mappable to said knowledge subsystem (Lennon discloses the description object model, or DesOM, represents resources and resource relationships mappable to the system, see page 11 paragraphs 154-156 and Figures 2A and 2B). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Osbom's disclosure of forming a Concrete Model and of a description of resources (Service Environment Model) to include refining the description of resources to produce a Concrete Model in order to provide a consistent method of describing resources and thereby utilizing resource descriptions, see page 1 paragraph 6 of Lennon.*

The cited Lennon portion page 9 paragraphs 115 reads:

> [0115] The preferred DDE attempts to incorporate the benefits of declarative description of content with procedural methods for the creation and processing of descriptors. It comprises an object model, an API for the processing of descriptions, and a serialisation syntax. The DDF can be used to adequately describe content using these components.

The cited Lennon portion page 9 paragraphs 116 reads:

> [0116] The object model provides the core semantics of the description and is based on the descriptor entity. This model has the advantage that the containment relationship is inherent in the model. This containment relationship is particularly important in the description of audiovisual resources for two reasons. First, the structure of many audiovisual resources has an inherent hierarchical structure (eg., a video clip contains shots which contain key frames, etc.). Second, the representation values for many

descriptors can be complex datatypes that can be represented in a hierarchical fashion (eg., a histogram contains bins which contain frequencies). The object model of the preferred DDF is called the Description Object Model DesOM). It is discussed in Section 2.2.

The cited Lennon portion page 1 paragraph 6 reads:

[0006] If a consistent method of describing resources can be achieved then consistent methods of selecting resource descriptions from formulated queries can be contemplated

28. As for claim 8, Osborn and Lennon in. combination disclose each and every limitation of claim 7. Lennon further discloses wherein said step of replacing comprises a limitation taken from a group of limitations consisting of: querying a best practices catalog; generating sub graph patterns dynamically; employing graph matching techniques to obtain said sub-graph structure (Lennon discloses matching the sub tree structure to the description object, sec page 11 paragraph 155 and Figure 5);

The cited Lennon portion page 11 paragraph 155 reads:

[0155] For a description to conform to the preferred DDF, the root of the DesOM must be a Description object. In other words, the root must specify the resource to which the description refers. Since a Description object is just a specialisation of the Descriptor object, any Description object can become a sub-tree of another Description object. In other words, a new Description object can be created from a set of related Description objects. This process is shown in FIG. 5.

employing graph merging techniques to obtain said sub-graph structure (Lennon discloses merging the sub tree structure to the description object, see page 11 paragraph 155 and Figure 5);

The cited Lennon portion page 11 paragraph 155 reads as stated above.

any combination of these limitations. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Osbom's disclosure of forming a Concrete Model and of a description of resources (Service Environment Model) to include refining the description of resources to produce a Concrete Model in order to provide a consistent method of describing resources and thereby utilizing resource descriptions, see page 1 paragraph 6 of Lennon.

29. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osborn, as applied to claim 12 above, and in further view of U.S. Patent No. 6,332,023 B1 issued on December 18, 2001 to Porter et al. (denoted herein as "Porter").

The cited art to *Porter*, US Patent 6,332,023, filed: June 4, 1998, is entitled: "Method of and system for providing services in a communications network". The abstract reads: "A system for providing services in a communications network includes a service processing function, a universal directory function, and a nodal resource manager. The service processing function receives service requests, formulates requests for interworking functions based upon service requests, and formulates resource requests based upon service requests and interworking functions. The universal directory function receives addresses from the service processing function and returns interworking functions based upon addresses. The nodal resource manager receives resource requests and allocates resources to the service processing function in response to resource requests. The nodal resource manager maintains a resource database that includes an entry corresponding to each network resource managed by the nodal resource manager.".

30. As for claim 15, Osbom discloses each and every limitation of claim 12. In addition, Osborn and Porter in combination disclose wherein step of provisioning includes a task taken from a group of tasks consisting of:
creating a new service environment (Osbom discloses allocating resources to an application to create a service environment, see column 3 lines 60-67),
changing the combination of resources allocated to a service environment (Osbom discloses allocating resources to an application to create a service environment, see column 3 lines 60-67.

The cited Porter portion column 3 lines 60-67 reads:

Every resource manager has a domain, which is the set of resources managed by the resource manager. The domain of a nodal resource manager is the set of resources available to a network node, as the network is currently configured. The system of the present invention may include a network resource manager, whose domain is all connective resources of the network. The network resource manager can reconfigure the network and allocate additional network resources to a nodal resource manager. In the

event a nodal resource manager cannot satisfy a resource request, the nodal resource manager may request additional resources from the network resource manager.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of a communications network according to the present invention.

FIG. 2 is a block diagram of a network node according to the present invention.

In addition, Porter discloses de-allocating resources allocated to a service environment, see column 3 lines 40-50),

The cited Porter portion column 3 lines 40-50 reads:

Preferably, the evaluation function ranks unallocated candidate resources higher than allocated candidate resources. However, occasionally the best candidate may already be allocated to a lower priority service processing function. In those situations, the resource manager de-allocates the best candidate resource and notifies the earlier service processing function that its use of the resource has been preempted. Then the resource manager reconfigures the resource and allocates the resource to the higher priority service processing function.

changing the configuration of resources all Ocated to a service environment (Porter discloses changing the configuring of a resource that has been allocated to a service environment, see column 3 lines 30-40), or destroying a service environment, or any combination of the above. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Osbom's disclosure of provisioning to include the ability to change the configuration of resources in order to provide for a more flexible allocation of resources, see column 2 lines 35-54 of Porter.

The cited Porter portion column 2 lines 35-54 reads:

The approach of the '075 patent cannot optimize the path subject to instantaneous changes in the network or based upon per-resource cost metrics. More generally, the '075 patent

continues to confound service and addressing functions within a single database. As in traditional telephony, there is no recognition of the need to segregate service logic and addressing data. Furthermore, the approach of the '075 patent cannot effectively serve new types of traffic or services that may require flexible allocation of intervening resources, such as store-and-forward devices.

There is a need for a flexible routing technique in a telecommunications network that encompasses more than a fixed mapping of numbers to trunk groups, or a fixed mapping of origination information to network resources. A new routing technique is required that takes into account many factors in routing a call and it can be applied in a multi-purpose communications network, rather than just for telephony.

31. As for claim 16, Osbom and Porter in combination disclose each and every limitation of claim 15. Porter further discloses wherein changing the configuration of resources allocated to a service environment include:

changing the local state of a resource (Porter discloses updating static and dynamic resource attributes, see column I lines 66-67, column 3 lines 1-20), or changing the way the resource is configured to work with other resources. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Osbom's disclosure of provisioning to include the ability to change the configuration of resources in order to provide for a more flexible allocation of resources, see column 2 lines 35-54 of Porter.

The cited Porter portion column I lines 66-67 reads:

Although the traditional routing table approach has sufficed for traditional telephone use under normal conditions, it has become inadequate to accommodate new types of services and traffic.

The cited Porter portion column 3 lines 1-20 reads:

The present invention provides a method of and a system for providing services in a communications network. The system includes a service processing function, a universal directory function, and a resource manager. The service processing function receives service requests, formulates requests for interworking functions based upon service

requests, and formulates resource requests based upon service requests and interworking functions. The universal directory function receives logical addresses from the service processing function and returns interworking functions based upon addresses. The resource manager receives resource requests and allocates resources to the service processing function in response to resource requests. The resource manager accesses and updates a resource database that includes an entry corresponding to each network resource managed by the resource manager.

Each entry of the resource database includes a resource identifier, a set of static attributes, and a set of dynamic attributes. A resource identifier uniquely identifies a resource. Static attributes are relatively stable data about the type and configuration of the resource. Dynamic attributes are changing data about the resource that are tracked by the resource manager, including such data as whether the resource is being used, and if so, by whom. If a resource is allocated, the dynamic attribute of the resources will include an indicator on how to find the priority of the allocation. This is because the priority of an allocation could be dynamic, i.e., the function owning a resource may assign varying priority during the duration of the allocation, or static, i.e., the priority is determined at allocation time and is fixed, so that it can be stored in the resource.

The cited Porter portion column 2 lines 35-54 reads as stated above.

32.Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osbom, as applied to claim 1 above, and in further view of U.S. Patent Application Publication No. US2004/0128397 A1 filed on September 10, 2003 by Glasmann et al. (denoted herein as "Glasmann").

The cited art to Glasmann, US Patent Publication No. US2004/0128397, filed: September 10, 2003, is entitled: "Method for checking transmission resources of a packet-oriented communication network when there are topology changes". The abstract reads:

"To check transmission resources of a packet-oriented communication network on a topology change, a resource manager checks a reservation of the transmission resources based on the topology data relating to the topology of the communication network. Upon a topology change of the communication network, topology change information is

transferred to the resource manager. The resource manager records new topology data which relates to the changed topology of the communication network. Based on the new topology data, the resource manager maps an existing reservation of the transmission resources to the changed topology of the communication network.".

33. As for claim 17, Osbom discloses each and every limitation of claim 1. Osbom does not explicitly disclose, but Glasmann discloses regenerate provisioning instructions whenever at least one of the following occurs: infrastructure characteristics change (Glasmann discloses allocating resources when there is a change in the topology, see page 1 paragraph 5, 8, and 9), and requirements of a service change. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Osbom's disclosure of provisioning resources to include providing resources when infrastructure characteristics change in order to provide for adaptive resource checking and reacting to topology changes (see page 1 paragraphs 7 and 10 of Glasmann).

The cited Glasmann portion page 1 paragraph 5, 8, and 9 reads:

[0005] In practical operation of a communication network this topology can occasionally change. Such a topology change can for example be caused by an administrative configuration change or by a failure or a recovery of a network component. As a result can there can be a dynamic change of communication routes in the communication network on Layer 2 (e.g., through so-called spanning-tree procedures) and/or Layer 3 (e.g., by routing procedures such as RIP or OSPF) of the OSI reference model.

[0008] To check transmission resources of a packet-oriented communication networks on topology changes a resource manager is provides which checks an reservation of the transmission resources in particular by connections, on the basis of the topology data relating to the topology of the communication network. A topology change in this document is also taken to mean changes to a network configuration or changes to operating conditions of the communication network. In accordance with the invention, as a result of a change to the topology of the communication network topology change information is sent to the resource manager. As a result the resource manager is caused to create new topology data relating to the changed topology of the communication network. On the basis of the new topology data created the resource manager maps an existing

reservation of the transmission resources to the changed topology of the communication network.

[0009] A significant advantage of the invention lies in the fact that the resource manager can detect at an early stage and react to topology changes which as a rule result in a temporary inconsistency of a topology image present in the resource manager with the current topology of the communication network. By mapping the existing reservation of resources to the changed topology resource guarantees can be maintained for the connections which existed before the topology change, provided that can be combined with the new topology. In addition the transmission resources available after the change can be used particularly efficiently.

34. As for claim 18, Osbom and Glasmann in combination disclose each and every limitation of claim 17. Glasmann further discloses wherein the infrastructure characteristics include a characteristic taken from a group of characteristics consisting of: types of resources in the infrastructure, capabilities of said resources (Glasmann discloses topology changes include changes in the capabilities of a resource, see page 1 paragraphs 4 and 5),

The cited Glasmann portion page 1 paragraphs 4 and 5 reads:

[0004] To be able to establish whether transmission resources requested for a connection are available on the primary route of this connection through the communication network the resource manager needs information about the topology of the communication network, i.e. about the networking structure of the network nodes and link lines and about their relevant transmission capacity. This type of topology information which specifies the topology of a communication network is frequently referred to as a topology image.

[0005] In practical operation of a communication network this topology can occasionally change. Such a topology change can for example be caused by an administrative configuration change or by a failure or a recovery of a network component. As a result can there can be a dynamic change of communication routes in the communication

network on Layer 2 (e.g., through so-called spanning-tree procedures) and/or Layer 3 (e.g., by routing procedures such as RIP or OSPF) of the OSI reference model.

configuration of said resources (Glasmann discloses topology changes include changes in the configuration of a resource, see page 1 paragraphs 4 and 5), constraints on configuration of said resources, best practices patterns as defined in the best practices catalog, and any combination of the above. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Osbom's disclosure of provisioning resources to include providing resources when infrastructure characteristics change in order to provide for adaptive resource checking and reacting to topology changes (see page 1 paragraphs 7 and 10 of Glasmann).

The cited Glasmann portion page 1 paragraphs 4 and 5 reads as stated above.

The cited Glasmann portion page 1 paragraphs 7 and 10 reads:

[0007] An object of this invention is to specify a method of checking transmission resources of a packet-oriented communication network which allows adaptive resource checking when the topology of the communication network changes.

[0010] Advantageously the resource manager can temporarily change over to a static resource reservation mode as a result of receiving the topology change information. In the static resource reservation mode the transmission resources are reserved preferably in accordance with a method independent of the reservation of the transmission resources or of dynamic changes to the topology image or the topology data.

35. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Osbom, as applied to claim 19 above, and in further view of U.S. Patent No. 6,901,446 B2 filed on February 28, 2001 by Chellis et al. (denoted herein as "Chellis").

The cited art to Chellis, US Patent 6,901,446, filed: March 14, 2005, is entitled: "System and method for describing and automatically managing resources". The abstract reads: "A system and

method for automatically allocating resources is provided. The system includes one or more components for automatically allocating one or more resources, based at least in part on data associated with the one or more resources, the data including at least one of, type data, instance data, characteristic data, and dynamically modifiable metadata. An alternative aspect of the system provides one or more components for automatically allocating one or more resources distributed on a plurality of resource allocation servers. The one or more components for automatically allocating the one or more resources can improve utilization of the capacity of the one or more resources. In an alternative embodiment the system includes an Application Programming Interface (API) operable to configure and/or control the one or more components for automatically allocating one or more resources".

> *36. As for claim 20, Osbom discloses each and every limitation of claim 19. Osbom does not explicitly disclose, but Chellis discloses wherein said Resource Manager provides a set of resource manager methods taken from a group of resource manager methods consisting of:*
> *creating composite resources based on a Concrete Model (As mentioned above, Osbom does disclose a resource manager for a composite resource. However, Osborn does not explicitly disclose, but Chellis discloses a resource manager capable of creating a composite resource, or set of interdependent resources, based on defined resource requirements for a service, see column 3 lines 36-59),*
>
> *changing composite resources based on a Concrete Model (As mentioned above, Osbom does disclose a resource manager for a composite resource. However, Osbom does not explicitly disclose, but Chellis discloses a resource manager capable of changing a composite resource, or set of interdependent resources, based on defined resource requirements for a service, see column 3 lines 36-67 column 4 lines 1-27 and column 9 lines 55-67),*

The cited Chellis portion column 3 lines 36-67 reads:

> The present invention includes initially defining resource requirements for a service. The operation of the present invention includes the ability to redefine resource requirements, allocation rules and algorithms to more efficiently utilize resources available to be allocated. The resources to be allocated can change in numbers, characteristics and types. Further, the mix of resources required for an application and/or service can change. Thus, the present invention provides a system and method for defining resources, for manipulating the pool of resources available (e.g., adding/subtracting resources

dynamically based on usage), for tracking the resources available and for defining and managing dependency relationships between applications, sessions and/or resources. By way of illustration, a new resource type can be created, with the creation including recording information concerning the new resource type (e.g., disk capacity, disk speed, number of concurrent users). Similarly, an existing resource can have its characteristics change (e.g., bandwidth increased/decreased, disk size increased/decreased). By way of further illustration, instances of a type can be added to the pool of resources available for allocation, and once added to the pool, the status (e.g., availability, online/offline, allocated/not-allocated) of the resource can be tracked.

Dependencies can exist between items including, but not limited to, services and resources. For example, a first consumer access to a first service may require allocating a first resource and a second resource, while a second consumer access to a second service may require allocating a first resource, a second resource and two instances of a third resource. Further, there may be dependencies between resources. For example, to allocate a first resource may require that a second resource and a third resource be available to be allocated. For example, a router resource may require that a data communication channel resource and a data security resource be available before the first resource can be allocated. In the present invention, a resource may be defined so that a service is a resource to another service. For example, a database lookup service may be a resource required by an email service and a chat room service.

The cited Chellis portion column 4 lines 1-27 reads:

Dependencies can exist between items including, but not limited to, services and resources. For example, a first consumer access to a first service may require allocating a first resource and a second resource, while a second consumer access to a second service may require allocating a first resource, a second resource and two instances of a third resource. Further, there may be dependencies between resources. For example, to allocate a first resource may require that a second resource and a third resource be available to be allocated. For example, a router resource may require that a data communication channel

resource and a data security resource be available before the first resource can be allocated. In the present invention, a resource may be defined so that a service is a resource to another service. For example, a database lookup service may be a resource required by an email service and a chat room service.

The data concerning resources can include data (in the form of properties and/or attributes about the resource and metadata (data about data)). The data concerning a resource can include type and relationship data. For example, a resource can be generally characterized by data including, but not limited to, its name, capacity in units relevant to the resource (e.g. megabytes, CPU cycles or transactions per second), operating characteristics, relationships with other resources, and dependencies on other resources. An instance of a resource may be more particularly characterized by data including, but not limited to, its allocation status, its availability, and its current allocation to services and/or resources. The metadata concerning a resource can include data about how to define a resource. For example, a resource definition may require registering N fields, (N being an integer), where a first field requires a string of M characters, (M being an integer), the characters corresponding to a resource name, where the second field requires a thirty-two bit globally unique identifier (GUID), and so on.
and column 9 lines 55-67),

destroying composite resources based on a Concrete Model, and any combination of these methods. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Osborn's disclosure of a resource manager the ability to create and change composite resources in order to provide increased functionality to the resource manager and, in addition, to provide for more robust allocation of composite resources (see column 2 lines 44-67 and column 3 lines 1-6).

In response, the applicants respectfully states that the various combinations of art fail to make any of the claims obvious, since they all are combined with Osborn which fails to teach even the independent claims.

It is anticipated that this brings claims 1-25 as amended to allowance.

Please charge any fee necessary to enter this paper to deposit account 50-0510.

Respectfully submitted,

By: ____/Louis Herzberg/________
Dr. Louis P. Herzberg
Reg. No. 41,500
Voice Tel. (845) 352-3194
Fax. (845) 352-3194

3 Cloverdale Lane
Monsey, NY 10952

Customer Number: 54856